

## Math 1060 Chapter 4 Worksheet

1. Use the even/odd identities to verify the identity  $\sin(\pi - 12\theta) = -\sin(12\theta - \pi)$ . Assume all quantities are defined.

2. Use the sum and difference identities to find the exact value of  $\tan(105^\circ)$ . You may have need of the quotient, reciprocal or even/odd identities as well.

3. Verify the identity:  $\sin(\pi + \theta) = -\sin(\theta)$ .

4. Verify the identity:  $\sin(-\alpha - \beta) + \sin(\alpha - \beta) = -2\cos(\alpha)\sin(\beta)$ .

5. Verify the identity:  $-\frac{\cos(\alpha + \beta)}{\cos(\alpha - \beta)} = \frac{\tan(\alpha)\tan(\beta) - 1}{1 + \tan(\alpha)\tan(\beta)}$ .